

Each NCOS is defined to restrict calls to specific calling patterns. NCOSs are traditionally built with increasing call capabilities. Lower numbered NCOSs are most restrictive and higher numbered NCOSs are least restrictive. One NCOS should not duplicate another. Print the entire NCOS database to ensure that a rogue code is not built at the end of the database.

Basic and Network Authorization Codes

Authorization Code Data Block. Identify the following for each Authorization Code Data Block (AUB).

| | |
|------|-------|
| SPWD | _____ |
| ALEN | _____ |
| ACDR | _____ |
| CLAS | _____ |
| COS | _____ |
| TGAR | _____ |
| NCOS | _____ |

1. Ensure that CDR is recording the authorization codes.
2. Determine the COS, TGAR, and NCOS for each CLS. There should be no duplicate CLS.
3. Verify the following for each Authorization Code (AUT):

| | |
|------|-------|
| SPWD | _____ |
| CODE | _____ |
| CLAS | _____ |

ESN Translation Tables—LD 90

Location Code. Identify the following for each Location Code (LOC):

| | |
|------|-----------|
| TRAN | _____ |
| LOC | _____ |
| RLI | _____ |
| ITEG | _____ |
| LDN | _____ |
| DID | Yes or No |
| MDXX | Yes or No |
| SAVE | _____ |
| OFFC | _____ |
| RNGE | _____ |

1. Determine the DGT for each entry on the RLI.
2. Indicate if the DGT modifies calls to specific external locations.
3. Validate the location and telephone number.

Numbering Plan Area Code. Identify the following for each Numbering Plan Area Code (NPA):

| | |
|--------|-------|
| TRAN | _____ |
| NPA | _____ |
| RLI | _____ |
| SDRR | _____ |
| - DMI | _____ |
| - DENY | _____ |
| - LDID | _____ |
| - LDDD | _____ |
| - DID | _____ |
| - DDD | _____ |
| ITED | _____ |
| - TEI | _____ |

Indicate area codes to international locations and if they are sent to a route different from U.S. long-distance calling. The route should be different to indicate special status; for example, it should carry a higher NCOS and have an FCAS table to permit calling to specific business numbers within a high fraud area code such as 809. If a company does not call the 809 area, remove it from the translation tables.

Central Office Translation. Identify the following for each Central Office Translation (NXX):

| | |
|--------|-------|
| TRAN | _____ |
| NXX | _____ |
| RLI | _____ |
| SDRR | _____ |
| - DMI | _____ |
| - DENY | _____ |
| - LDID | _____ |
| - LDDD | _____ |
| - DID | _____ |
| - DDD | _____ |
| ITED | _____ |
| - ITEI | _____ |

1. Eliminate NXX 976 if it was programmed.
2. Highlight any numbers with inconsistent routing and/or digit manipulation.

Special Number Translation. Identify the following for each Special Number Translation (SPN):

| | |
|--------|-------|
| TRAN | _____ |
| SPN | _____ |
| RLI | _____ |
| SDRR | _____ |
| - DMI | _____ |
| - DENY | _____ |
| - LDID | _____ |
| - LDDD | _____ |
| - DID | _____ |
| - DDD | _____ |
| ITED | _____ |
| - ITEI | _____ |

1. Check for entries permitting Equal Access calls.
2. Ensure that these entries do not override Code Restriction or NFCR database entries.
3. Check for country code entries.
4. If there is no international dialing, eliminate any entries allowing it.
5. If international calls are permitted, define to the country code level if possible.
6. Restrict the use of flexible ESN routing (Release 16 and above) for 0, 00, 01, and 011.

Speed Call. Define each Network Speed Call List (NSCL):

| | |
|------|-------|
| TRAN | _____ |
| NSCC | _____ |
| SSCL | _____ |

Multi-Tenant Service

Tenant-to-Tenant Access. Define the following for each tenant:

| | |
|------|-------|
| TEN | _____ |
| ACC | _____ |
| DENY | _____ |
| ALOW | _____ |

Identify any Tenant-to-Tenant Access (TACC) restrictions.

Tenant-to-Route Access. Define the following for each tenant:

| | |
|-------|---------------|
| ROUT | _____ |
| ACC | ALLOW or DENY |
| DENY | _____ |
| ALLOW | _____ |

Identify any Tenant-to-Route Access (RACC) restrictions.

Console Presentation Group. Define the following for each Console Presentation Group (CPG):

| | |
|------|-------|
| CPG | _____ |
| NIT1 | _____ |
| NIT2 | _____ |
| NIT3 | _____ |
| NIT4 | _____ |

Indicate if any night numbers for any CPG are Meridian Mail DNS.

Meridian Mail Audit Guidelines

Review the following areas of Meridian Mail:

Release 5

Voice Security Options. Identify the following voice security option:

THRU DIAL RESTRICTIONS

(10 entries)

1. Ensure that all access codes on the Meridian 1 printouts are included in this table.
2. Verify all direct trunk access codes. AC1 and AC2 codes are covered in this table.

INVALID LOG-IN ATTEMPTS

MINIMUM PASSWORD LENGTH

FORCED PASSWORD CHANGE

NUMBER OF ENTRIES BEFORE REPEAT PASSWORD

EXPIRATION WARNING MESSAGE PARAMETERS

Voice Services DN Table.

1. List all voice mail DNs.
2. Compare the voice mail DNs to the ACD DNs on the Meridian 1 printouts.
3. Identify all access attempts to voice mail.

Releases 7 and 8

Permission Restriction Tables. Provide the appropriate information:

Call Answering Express Message Through-Dialing Permission Restriction Tables

- Local

Permission

Restriction

- On line
Permission

Restriction

- Long-distance 1
Permission

Restriction

- Long-distance 2
Permission

Restriction

Outcalling and Remote Notification. Identify which of the Permission Restriction Tables are used for Outcalling and Remote Notification:

| | |
|---------------------|-------|
| Outcalling | _____ |
| Remote Notification | _____ |

Through-Dialing Restriction Table (Release 7). Enter the restrictions for through-dialing:

| | |
|-------|-------|
| _____ | _____ |
| _____ | _____ |
| _____ | _____ |
| _____ | _____ |
| _____ | _____ |

Voice Menu Through-Dialing Restriction/Permission (Release 8). Enter the restriction permission tables for each voice menu:

| | |
|------------------------------|-------------|
| Voice Menu Name/DN | _____ |
| Permission/Restriction Table | |
| Permission | Restriction |
| _____ | _____ |
| _____ | _____ |
| _____ | _____ |
| _____ | _____ |
| _____ | _____ |
| _____ | _____ |
| _____ | _____ |
| _____ | _____ |
| _____ | _____ |
| _____ | _____ |

Ensure that all access codes (direct trunk, AC1, and AC2) on the Meridian 1 printouts are included in the restriction tables:

| | |
|--|-------|
| INVALID LOG-IN ATTEMPTS | _____ |
| MINIMUM PASSWORD LENGTH | _____ |
| FORCED PASSWORD CHANGE | _____ |
| NUMBER OF ENTRIES BEFORE REPEAT PASSWORD | _____ |
| EXPIRATION WARNING MESSAGE PARAMETERS | _____ |

Voice Services DN Table. List all voice mail DNs. Compare the voice mail DNs to the ACD DNs on the Meridian 1 printouts. Be certain to identify all access attempts to voice mail.

Voice Mailboxes. When configuring new mailboxes, it is preferable not to use the default password capability. NT recommends that the system administrator assign a custom password per mailbox. Users frequently leave default passwords in place. Hackers try the obvious first (default passwords) and then common choices such as 123456, 654321, 222222, 333333, telephone numbers, and addresses.

TGAR WORKSHEET

| ACCESS CODE | ROUTE | TRUNK TYPE | TGAR CODE | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
|-------------|-------|------------|-----------|---|---|---|---|---|---|---|---|---|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|--|
| | | | 0 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 | 24 | 25 | 26 | 27 | 28 | 29 | 30 | 31 | |
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TGAR WORKSHEET

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TGAR WORKSHEET

| ACCESS CODE | ROUTE | TRUNK TYPE | TGAR CODE | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
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| | | | 0 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 | 24 | 25 | 26 | 27 | 28 | 29 | 30 | 31 |
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Product Bulletin

Number: 93003

Date: January 1993

Meridian Mail

Meridian Mail Security Advisory

As part of Northern Telecom's ongoing efforts to reduce the risk of toll fraud loss, we recently determined that Meridian Mail Release 7.09DC may be susceptible to unauthorized access. This potential only exists in systems running Release 7.09DC which shipped from July 1991 through February 1992. It does not exist in earlier Meridian Mail releases, 3 through 6, nor does it exist in Release 7.54CC or later.

Because systems running Release 7.09DC may be vulnerable to unauthorized access, we recommend they be upgraded as soon as possible to the latest issue of Release 7. This upgrade can be ordered with the following:

| | |
|---------|--|
| MPR0078 | Release 7 Upgrade Package |
| 60020 | Meridian Mail Software Service Transaction Fee |

Note: MPR0078 is no-charge when accompanied by 60020.

Minimizing the Risk

The potential vulnerability can only be exploited by hackers if they break into a mailbox. The risk of hackers breaking into a mailbox can be minimized by following the security practices which are outlined below. Of course, practices such as these should be followed regardless of the Meridian Mail software release.

To harden user mailboxes to hacker attack:

- Require a minimum password length of at least six digits.
- Limit the number of invalid login attempts to three. Six digit passwords coupled with a maximum of three attempts will foil brute force hacker attacks.
- Set password expiration date to 45 days or less.

Note: Meridian Mail will not let users reuse a password.

The above parameters are set on the Security Options Screen. See page 8-7 of the *System Administration Guide* (NTP 555-7001-301) for how to set these parameters.

- Always change the default password when issuing a new mailbox. The password defaults to the mailbox number. This is the first password a hacker will try.

The potential for toll fraud through Meridian Mail may also be reduced from the Meridian 1 switch by placing access restrictions on the virtual agents which serve the Meridian Mail ports. Restrictions should be placed to limit dialing of the Meridian Mail agents to only those numbers required by the applications running the Meridian Mail system.

For details regarding configuring the Meridian 1 switch and Meridian Mail to improve the security of a Meridian Mail system from unauthorized access, refer to Sales and Marketing Bulletins:

| | |
|-------------|---------------------------------|
| 782-G Rev 1 | "Meridian Mail Security Update" |
| 797-G | "Controlling Access Privileges" |

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Product Bulletin

Number: 93070

Date: November 1993

Meridian 1 Software

Default Password Changes System Options 21 through 81

To further reduce unauthorized access to the Meridian 1, the default login password on new system shipments is changing effective January 3, 1994. Software shipped with new system shipments for system options 21 through 81 is affected. Option 11 software is not affected by this change.

The system password on new system shipments (PWD2) is changing to be identical to the System ID (serial number). The secondary system password (PWD1) will be identical to the System ID minus the first character.

Example:

System ID J00463

Password 2 (PWD2) is J00463

Password 1 (PWD1) is 00463

On the first system login, both PWD1 and PWD2 should be changed.

Store any information containing the system password (such as a packing slip) in a secure location during system installation to prevent unwanted detection of the password.

A high percent of unauthorized access occurs within 90 days of system installation. Northern Telecom recommends the passwords be changed during installation and again after the system is placed in service. It is vital to protect passwords and to keep them secure.

Meridian 1 passwords should have a minimum of eight characters and be alpha-numeric. The password should be changed every 60 to 90 days after system cutover. Passwords should be changed when anyone knowing the password leaves the company of changes job function such that they no longer require passwords. If Limited Access to Overlays is used to restrict access to specific programs, these passwords should also be changed on a regularly scheduled basis.

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ACCESS DENIED

Northern Telecom Security Programs Newsletter
Issue 4, December 1993

MORE OF THE SAME

Last month we listed some 800 numbers that were call forwarded to 900 numbers and billed as such on long distance bills. Thanks to an alert Distributor Alliance Council member, Holly Hance of Bell South, we have some to add to this issue.

800 Numbers that Bill as 900:

468-3825 697-7877 877-3655 733-7877 444-6749 468-4475

In this vein, Phil Ruffin of Halliburton Company in Fort Worth sent a clipping from the AT&T Consultant Exchange that stated the following:

"The Telephone Disclosure and Dispute Resolution Act (TDDRA) became law late last year. It directed the Federal Communications commission (FCC) to prescribe rules establishing requirements for common carriers offering pay-per-call (PPC) services. The TDDRA also required the Federal Trade commission (FTC) to prescribe rules governing the advertising and operation of PPC services, as well as billing and collection procedures for such services.

The FCC released its rules on August 13 that will take effect September 24. Billing and collections rules and the rescission of the FCC's preamble requirement will take effect November 1. Here is a summary of those rules.

- All interstate PPC programs are restricted to the 900 service access code
- ending the practice of conducting 'pure' PPC (that is, where a charge is generated simply because a call is completed to the number) on the 800 or 700 NPA's.
- PPC programs are allowed on 800 numbers as long as the caller has subscribed to the program during a previous call or written transaction, or bills the call to a credit or charge card.
- 'Collect' PPC services and use of 800 numbers to initiate collect calls are forbidden.
- Carriers would not have to seek out and provide refunds to all those who called a program later found out to be out of compliance.
- Carriers do not have to conduct ongoing investigations to determine whether PPC programs are lawful unless there is a specific complaint.

- More consumer disclosure is required: Telephone bills with PPC charges must state that local or long distance service cannot be disconnected for failure to pay these charges and that callers may be subject to collection efforts; PPC charges must be separated from local or long-distance charges; and carriers must provide disclosure statements annually."

VERIFY PASSWORD CHANGES

In Release 7+, the date and time a user's password was last changed can be viewed using the View Modify Local User screen. Although there is no program to print the information, if you can Print Screen on your terminal, you can retrieve a hard copy. The information has to be viewed one mailbox at a time, but if you're looking for the information, it's available.

FORCED TO AGGREGATE?

Many PBX managers face the responsibility of offering Equal Access to all long distance carriers. The concern for these users is providing equal access, without giving away long distance service to hackers or abusers. Release 17 on the Meridian 1 introduced the ability to limit callers to dialing 10XXX0 and prohibiting 10XXX1 calls with Equal Access and New Flexible Code Restriction features. Even with this programming in place, some users encounter problems with callers billing back to their company instead of using a credit card. SPRINT advises long distance trunking facilities can carry an Automatic Number Identification (ANI) code of "07" that indicates to long distance operators that this call is coming from an institution (hospital, university). The ANI code of "06" indicates a Hotel/Motel. This will help prevent collect, operator handled, or third party calls from appearing on your bill. Check with your central office to verify ANI identification is in place.

Some users have chosen to notify carriers in writing that they do not accept third party billed, collect or operator handled calls. Check with your legal department for any action of this nature.

UPDATE ON 976-LIKE NUMBERS

Richard Wilson of Meridian Sales Support provided a Bellcore document that listed all the 976 look-a-likes as of November 1, 1993. The additions and corrections to the list provided in the September issue of Access Denied are listed below:

| Area Code | State or Province | Prefix |
|-----------|-------------------|---------------|
| 204 | Manitoba | 924, 940 |
| 208 | Idaho* | 960 |
| 215 | Pennsylvania* | 556 |
| 413 | Massachusetts | 550, 940 |
| 703 | Virginia | 844 |
| 917 | New York | 540, 550, 970 |

- * Indicates correction to September issue. The numbers shown in September are incorrect; these are corrected prefixes.

OFFICE OF CONSUMER AFFAIRS

The United States Office of Consumer Affairs offers an information service from the National Fraud Information Center. You can receive information on current consumer frauds, tips on how to avoid being a victim, and various publications. You can also check out suspicious or unknown companies. Call 800-876-7060 for more information.

HISTORY FILE ENHANCEMENTS

With Release 19 you may selectively view the History File, using the command VHST. Commands allow you to search forward, repeat the last forward or backward search; go up, down, or backward, to the top or bottom; define previous number of lines to display, next number of lines to display; display lines from here to the bottom of the file and search on a string of up to 12 characters. A regular hourly time stamp printed to the History File will assist easier searching through the file content.

The history file in Release 19 may also have three categories of files: Log Files (for Multi-User log in), System History Files and Traffic Files. Traffic Files have two categories: system (scheduled) or user generated reports. There is one traffic file per system. These enhancements are included in the base software package.

IF THIS IS ISSUE FOUR....HOW DO I GET 1, 2, AND 3?

Past issues of the Access Denied Newsletter are available through the ISLUA for customers and the Meridian Sales Support Bulletin Board for Northern Telecom employees and authorized distributors. Call your distributor to obtain back copies of the newsletter if you are not a member of the ISLUA.

UPGRADING TO RELEASE 7.55 FROM 7.09 ON MERIDIAN MAIL

Release 7.55CC offers a more secure release of Meridian Mail than Release 7.09; Release 7 upgrade ordering procedures are described in Sales and Marketing Bulletin 828-G and Product Bulletin 93003. The part number SRVC00019 replaces the part number 60020 listed in the bulletins. The upgrade is still free and recommended for any system still on Release 7.09 without plans to migrate to Release 8.

RELEASE 19 SECURITY FEATURE

For years users have been concerned that the Meridian 1's CDR (Call Detail Recording) information includes the user's calling card number when making a long distance call. The End-of-Dialing timer character (usually a '#') suppresses the display of a long distance credit card number.

Meridian J Toll Fraud Prevention

Warning: there is an extreme possibility that your company will become a victim of toll fraud. Take precautions now!

They're called "phone freaks,"

"dumpster divers," and "shoulder

surfers," and they cost businesses

more than half a billion dollars

each year. They use corporate

PBXs for personal gain and your

system may be their next target.

So what can you do to protect

your system from toll fraud?

GET AN EDUCATION IN TOLL FRAUD TACTICS - THINK LIKE A THIEF

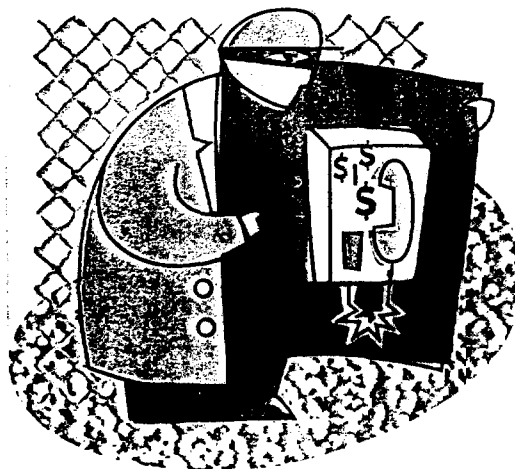
One of the best ways to protect your company PBX from toll fraud is to learn how hackers gain access to your system so that you can block their entry. These perpetrators usually choose one of several methods of cracking a PBX:

ACCESSING YOUR LONG-DISTANCE TRUNKING THROUGH A VOICE MAIL SYSTEM. Someone outside your company can call in to your voice mailbox, crack the access and long distance codes, and dial out to locations around the world. No one will be the wiser until a 30-page phone bill arrives with hundreds of international calls on it.

Criminals can also gain access to your voice mail by remotely accessing the administrator's terminal to take over mailboxes for criminal activity. Once they have access, they can exchange lists of long-distance codes, coordinate drug shipments and sell stolen bank card numbers, for example. And these activities are just the beginning.

STEALING DISA NUMBERS AND ACCESS CODES. If your company has Direct Inward System Access (DISA), a feature that allows users in remote locations to place calls through your corporate PBX, you could be a target of toll fraud. Shoulder surfers may steal long-distance authorization codes from company employees who are using pay phones in airports or other public places. Dumpster divers may steal lists of access and authorization codes from a trash dumpster at a company site. In addition, hackers frequently set up computers to repeatedly dial numbers and access codes until they hit a correct combination.

POSING AS TECHNICIANS OR TELEPHONE COMPANY EMPLOYEES. How secure is your switch-room? If just anyone can walk in without being noticed or questioned, you may be the next victim of a more direct form of toll fraud attack. Criminals can pose as telephone company technicians and gain access to your corporate PBX, even from remote locations. An attendant or someone inside your company may become an unwitting partner in crime if they provide access codes over the phone. Also, don't underestimate the importance of invalidating employees' codes when they leave your company. If they bear any ill will, they may use or sell the codes as a means of getting revenge.



In one of the most common forms of toll fraud, thieves steal access codes and long-distance authorization numbers and sell them on the street. If anyone has stolen numbers, anyone can dial out to locations all over the world at your company's expense.

MERIDIAN MAIL

Your voice mail system is another avenue for the perpetrators of toll fraud. However, you can minimize the risk of toll fraud by using features that control access to Meridian Mail and your Meridian 1 system. Criminals can seize control of your voice mail administrator terminal and mailboxes. To minimize unauthorized access, change your administration terminal password often and have users do the same with mailbox passwords. Turn off unused mailboxes to keep thieves from moving in and setting up call sell operations.

Three features that can assist you in establishing a Meridian Mail security program at the mailbox level are Secured Messaging, Password Change and Invalid Log-on Attempts. With each new release of Meridian Mail software, as with Meridian 1 software, new security features are added. Keeping your Meridian Mail software up-to-date also puts a lock on your system and gives you peace of mind.

TOLL FRAUD PROGRAMS AND DOCUMENTATION

In addition to Meridian 1 system safeguards, Northern Telecom also offers a variety of toll fraud programs and documentation that can help you evaluate and implement a protection program for your PBX. A "Controlling Access Privileges" workbook is shipped with each new Meridian 1 system. This workbook includes information about using Meridian 1 and Meridian Mail features to protect your system from fraud. A "Security Audit Guideline," "Installation Checklist," and an NTP security section are also available. If you have a staff of telecommunications technicians and attendants who need to be trained in PBX security, Northern Telecom also offers on-site seminars at your location. In addition, a two-day hands-on training course is offered at Northern Telecom's training centers. For information about any of these programs or documentation, contact your Northern Telecom authorized distributor or 1-800-NORTHERN.



You can keep your company codes off of hackers' bulletins by taking some simple precautions. For example, change authentication and voice mail access code security codes as often as appropriate for your corporate environment. Also, remember to delete employees who have left the

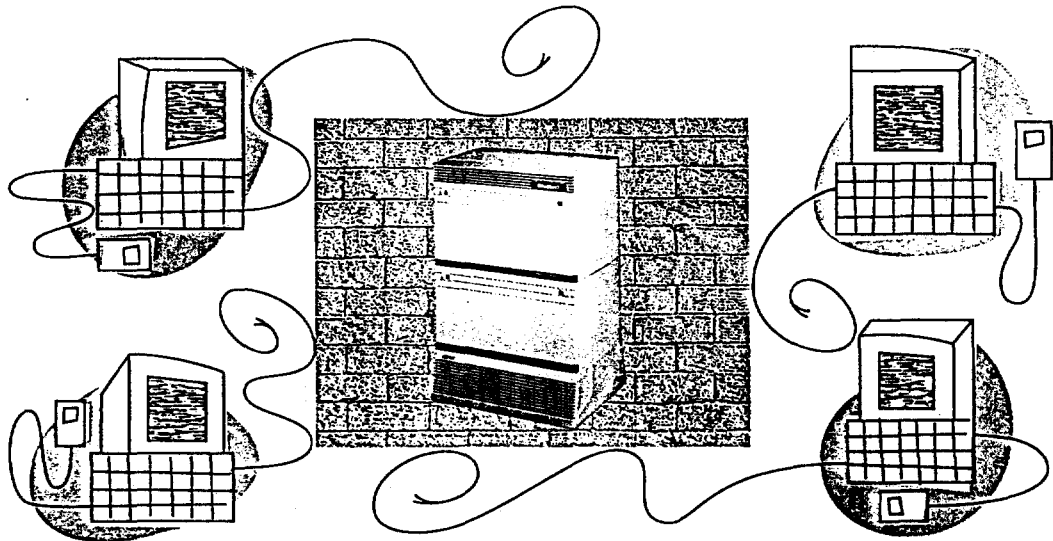
USE NORTHERN TELECOM'S TOLL FRAUD PROTECTION TOOLS

Northern Telecom ensures that a high level of security is built into every Meridian 1 system. But as a system user, it's your responsibility to audit your system and implement as many of its safeguards as possible.

MERIDIAN 1 SYSTEM SOFTWARE

Your Meridian 1 system software is your first line of defense against toll fraud. Keeping your system up-to-date with the latest release of software reduces your risk of falling victim to fraud. Once your system is installed, you need to ensure that your company is using all of the protective features that are built into your PBX. For example, you can use the Call Detail Recording feature to output authorization codes as well as calling and called parties, and time and duration of calls. Including authorization codes allows you to review call records and detect toll fraud initiated from inside or outside of your company.

Your Meridian 1 system software is your first line of defense against toll fraud. It can help you build a wall of protection around your Meridian 1 system. Keeping your system up-to-date with the latest release of software reduces your risk of falling victim to hackers who try to access your system.



DIRECT INWARD SYSTEM ACCESS

Your organization may permit employees to access long-distance services using personal authorization codes even when they are on the road. But, at the same time, you need to keep those codes out of the hands of hackers and thieves. The first level of security you can establish for Direct Inward System Access (DISA) is a security code. Using the Meridian 1 Security Code feature, you can require callers to enter a one- to eight-digit code to gain access to long-distance calling. The longer the code you require, the harder it will be for hackers to crack.

Once callers gain system access with a DISA code, the Meridian 1 system allows you to impose additional calling security measures. For example, you can require callers to enter a personal authorization code in addition to the security code to use outgoing lines.

DISA is a feature that is now available by request, rather than as a standard feature. If you have a Meridian 1 system and want to remove the DISA capabilities, contact your distributor.

A CHECKLIST FOR PROTECTING YOUR MERIDIAN 1 SYSTEM

- _____ DENY UNAUTHORIZED ACCESS. Thieves can access long-distance trunking facilities through your voice mail system. You can block activation of this feature or assign special passwords for this capability to prevent them from doing so.
- _____ SECURE DISA NUMBERS. You should not publish DISA numbers. Require outside callers making incoming calls to a DISA line to input a security code and an authorization code with as many digits as your company's corporate culture will allow. Do not use employees' Social Security, home phone or ID numbers as authorization codes because hackers may be able to easily break these codes.
- _____ FOIL THE DUMPSTER DIVER. Do not throw out call detail records and credit card receipts. Dispose of these materials, including switch printouts and old documentation, as you do any proprietary material.
- _____ CHANGE CODES FREQUENTLY. Change authorization and voice mail access codes, and security codes as often as is appropriate for the user community. Delete codes of former employees.
- _____ MAINTAIN SECURE AUTHORIZATION CODES. Treat authorization codes like credit card numbers. Do not allow employees to share authorization codes. Use as many digits in an authorization code as possible for your user community.
- _____ RESTRICT DISA AT NIGHT. Unauthorized toll calls are often placed at night or on holidays. If your user community permits, selectively restrict DISA calls at night and on holidays.
- _____ MONITOR CALLS. Most toll fraud is generated in a short time. Monitor call detail records for suspicious calling patterns. Automatically output traffic reports that identify possible unauthorized access.
- _____ RESTRICT INTERNATIONAL CALLS. International locations are the major destination for toll fraud calls. Restrict international calls if authorized users do not normally place calls to these locations. If users do place calls to international locations, allow only the area codes and country codes they require. Provide international calling capabilities only to users who require them.
- _____ RESTRICT CALL FORWARD. Program your system so that extensions cannot forward calls to long-distance numbers or trunking facilities.
- _____ SECURE ACCESS CODES AND PASSWORDS. Do not allow employees to post access codes and passwords in plain view.
- _____ KNOW WHO IS IN YOUR SWITCHROOM. Secure access to your switchroom at all times.

The security features available with your Meridian 1 PBX are your first line of defense against toll fraud. For additional information about security services offered by interexchange carriers, contact your long-distance carrier. Some third-party protective packages are also available. But most importantly, audit your system and make sure you use the features you have to prevent unauthorized access to long-distance service. Your PBX system is the first line of defense in preventing toll fraud and abuse. Your attention to system security can help make the billion dollar phone bill a thing of the past.

*To find out more about toll fraud prevention, call
your Northern Telecom representative today.*

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PO74065 June 1993

Printed in USA

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